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ABSTRACT

The implementation of an Open Learning System (OLS) would do much to resolve existing educational problems. The OLS is based upon the belief that learning and life are synonomous and that what is needed is not a system to teach but a system which allows people to learn by bringing them into contact with learning resources. Such a system is learning; in addition, its goals are derived from individual needs and its resources are provided to meet such needs. These resources are of six major varities: people, equipment, materials, facilities activities and evaluation. Computers would be essential to the system's operation since they could best manage the large quantities of data pertaining to learners, resources, administration, evaluation, finances and research and development. It would be highly difficult to implement such a system in an existing environment but it would be feasible to develop an OLS in a new community, provided Federal or state support was attracted. (PB)

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THE LEARNING SYSTEM

by

Kenneth H. Silber

A NEW APPROACH TO FACILITATING LEARNING BASED ON FREEDOM, THE FUTURE, AND EDUCATIONAL TECHNOLOGY

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THE LEARNING SYSTEM:

A New Approach to Facilitating Learning Based on Freedom, the Future, and Educational Technology

INTRODUCTION

Let me start by saying that I don't know anything about Manpower Development. Therefore, you may already be doing, or working toward, or at least believe the philosophy of the System I am going to describe. If so, that's great because most educators I talk to try to throw me out of the room. But as my philosophy states, I am more a learner than I am a resource or expert, so I hope that in addition to my sharing the Open Learning System with you, you will teach me about Manpower Development and Training and how I can incorporate its notions into the System I am proposing.

Now I am not going to talk just about Manpower Development; I am not just talking about media or computer based education; I am not just talking about individualized, or open-entry/exit instruction; and I am not just talking about an alternative parallel to the current educational system. Rather I am proposing that we take a complete re-look at the philosophy and purposes of education and then at its structure and operation. Also, I am asking that we do this not in the context of present institutions or answers, but rather that we "blue sky" and think about learning and the facilitation of learning in the future.

For me, this approach means answering the following questions--and in the following order:

--What do I see wrong with the current educational system?

--Am I really committed to making the basic changes needed in the educational system? If yes, ...

--What is the nature of man and learning?

--What, if anything, must be created to help people learn?

--What are the characteristics of such a system, and how are they congruent with the nature of man and learning?

--How will such a system operate, and how is the operation congruent with the characteristics?

--What components are needed to make such a system operate, and what should they be designated to do?

Note: This brief paper is a summary of the aspects of the learning system relevant for this seminar. It is based on the article "The Learning System" by the same author (Audiovisual Instruction, September, 1972, pages 10-27); see attached. It is also based on the "Learning System Simulation" by the same author, performed at the Association for Educational Communications and Technology Convention, and Second National Educational Technology Conference, 1972.

DESCRIPTION OF THE LEARNING SYSTEM

Problems in Current Educational System (and in Attempts to Remedy those Problems)

The main problem with the current educational system--the one which encompasses all the little ones which are traditionally identified as problems--is the philosophy which underlies it. See article, page 11, Educational System Philosophy. This negative philosophy, which leads to distrust and limiting of learners, manifests itself in the everyday problems of "curricular relevance," grades, instructional methods, equality of educational opportunity, finances, etc. Unfortunately, we deal with these symptoms as if they were problems, and most solutions to school problems attempt to manipulate one of these variables, rather than dealing with the real problem.

Such solutions are bound to fail because (1) even if they addressed a real problem, the school system is so massive and inter-related that changing one variable--or even two or three--out of the whole myriad of factors that affect the school system is bound to be a failure; and (2) they don't address the real problem, which is to ask if the current educational system's notions about man and learning are correct for 1973 and the future.

The Nature of Man and Learning

If I believe the current educational system's philosophy of man and learning, what do I suggest in its place--or (to address the symposiums first question) how will learning in my vision differ from the way it is now? My philosophy--and the one that underlies the learning system--is given in the article, page 11, Learning System Philosophy. It is basically a positive philosophy which says that learning and life are the same, and that every individual wants to live and learn all her/his life.

What Must be Created to Help People Learn?

Given this view of man and learning, a system to "teach" people is not needed at all. What is needed is a system to bring people into contact with resources for learning. The rationale for not having "no system al all" is given in the article, page 12. Therefore:

--A Learning System has as its purpose to bring people into contact with resources for learning.

--A Learning System is a system which provides:

**a compilation of data about resources for learning;

**a means for identifying, creating and storing learning resources;

**a means for access to learning resources.

What are the Characteristics of Such a Learning System?

Characteristics for a learning system based on the philosophy and purpose stated above have been identified in six areas (two more than shown in the article):

(A) Learning System and control

(1) All decisions remain ultimately in the hands of those affected by them.
(2) The system provides a free network of resources, and not a controlling education.

(B) Learning System and experimentation

(1) The learning system is experimental.
(2) The process of constant, on-going evaluation and self-renewal is built into the learning system.

(C) Learning System and the learner

(1) Everyone is considered a learner throughout her/his whole life.
(2) Everyone is considered a resource throughout his/her whole life.
(3) The learning system is a zero-reject system.
(4) The learning system is accountable to the learner.
(5) Failure is learning system, not learner, based.

(D) Learning system and its organization and operation

(1) The organization and operation are built only around the learner and facilitating his learning.

(2) The learning system is a full-time operation.
(3) The learning system is integrated with other systems in the city.
(4) The learning system uses the most sophisticated technological concepts and machines to develop and provide access to learning resources.

(E) Learning System and learning goals/objectives

(1) Learning goals represent the sum total of all unique, individual learning needs (logical "or" statement) rather than the most

common needs only (logical "and" statement).

(2) Learning goals and objectives are described to facilitate access to resources; they are never prescribed.

(3) Learning goals and objectives are selected individually by individual learners.

(4) No learning goals/objectives are required by the learning system.

(5) The learning system is based on a broad-range, open-ended bank of learning objectives which provide access to a broad range of learning experiences.

(F) Learning System and learning resources

(1) The learning system provides access to a variety of learning resources for each learning goal/objective.

(2) Learning resources are available for every learning/cognitive style and preference.

(3) Wherever possible, the learning resources are those of the community—people, facilities, tools, materials.

(4) Wherever resources are needed but not available, the learning system takes the responsibility for identifying or creating resources.

How Will Such a System Operate?

It is impossible to specify how the system will operate for all learners since each learner will operate differently in learning and use and require different things from the system. It is possible to look at all possible operations, though, that the system must have available to allow each learner to select those she/he needs.

The article does this in two ways: first, a narrative description of the 11 possible steps a learner could go through in using the system to learn (pages 14-15); second, a scenario describing the entry of an atypical "typical" family into the learning system (pages 15-22).

What Components are Needed to Make Such a System Operate?

I believe that three types of components are needed in order to allow the learning system to operate in accordance with its characteristics:

--objectives

--resources

--data

Objectives. The purposes of the objectives component are: (1) to provide through a standard set of descriptors a means of accessing the appropriate learning resources; (2) to help the learner identify what she/he wants to learn to some degree of generality or specificity; (3) to provide a basis for helping

the learner decide whether she/he has learned. The article (pages 21-23)explains how the objectives component will be set up.

The vehicle for developing, storing, and making available the objectives to the learner must be a COMPUTER--aha, we're finally at part of the role the computer plays in the learning system. The specifications for the computer will be discussed in the next section.

Resources. In order to cover the large variety of learning resources needed for the learning system, the resources component takes its structure from a systematic model in the field of education technology--The DIT. All resources are grouped under six categories:

--People resources--but NO full-time teachers or staff; everyone is always a learner and a resource;

--Tool/equipment resources--those things people can use to create their own resources or display resources they create;

--Materials resources--those packaged resources, in any media format, that can be used for learning--e.g., books, film, tape;

--Facilities resources--those places where learning can take place--mostly in already existing facilities in the community;

--Activity resources--planned and tested learning experiences incorporating materials, devices and facilities in the framework of an instructional technique, such as games, programmed instruction, etc.;

--Evaluation resources--situations in which the learner can determine whether or not she/he has achieved her/his learning objective.

The people and facilities resources are the most unique components of the learning system, and they are described in detail in the article, pages 23-27.

Data. In order to make all these resources and objectives and learners get together, and in order to make the learning system operate, a lot of data must be gathered and stored and made available to appropriate people at appropriate times. Seven different types of data have been identified thus far as being essential (I will just briefly describe each category rather than listing all the data that falls in the category):

--Learner data--related to each individual learner's needs, accomplishments, and activities;

--Resource administration data--related to the location and accessibility of learning resources;

--Resource evaluation data--related to the effectiveness and appeal of resources;

--Peer learner data--related to learners seeking other learner to learn with them;

--System financial data--related to income, allocation and expenditure of money;

--System evaluation data--related to the effectiveness of the system in meeting its characteristics;

--System research and development data--related to the self-renewing efforts of the learning system.

Can the Learning System be Implemented? If so, how?

Finally we come to the key question: Is this all a pipe dream?

I don't think so, if it is looked at in the correct perspective.

First, where could it be implemented? Could we change the school system of a community? NO. But it could be implemented in a New Community--one which is being planned from the ground up. Any new community? NO. Just one that is being planned as a truly experimental city for the future, and is being planned by people who are concerned with improving the quality of life of other people as well as of themselves. Such a city is in the preliminary stages of development--Minnesota Experimental City.

To my knowledge, this city is not definitely to be built (a go, no-go will be made by June). I will, however, base all my implementation comments based on the work they (and I) have done on the assumption that if there is a city, there will be a learning system.

The city, and hence the learning system, will be for 250,000 people. It will be completed (start to finish) in 10 years.

The development of the learning system will probably cost about $6 million in development costs plus the cost of the computer. However, once the system is developed it will cost no more, and probably even less, than we now spend on schools.

Once the initial parameters of the system are set up, the system is designed to be developed by the learners (i.e., all city residents) themselves. Thus, there will be a pool of 250,000 people available to enter data into the system, identify and create resources, fix machines, write programs, and, hopefully, change the system to fit their needs better.

Where will the development and start up costs come from? Probably from some agencies of the Federal or the State governments. Although admittedly there has been some problem here. Most agencies equipped to give out money for the improvement of education have said either "can you have it operational by next year," or "how do you know it will work," or "that's a good idea, but can you do it for $200,000." or simply "that idea is just too far out for us."

Where will the computer hardware and software, and the materials and activities resources for learning, and the learning objectives come from? Hopefully from what already exists. One of the strong points of the learning system is the way it integrates already existing materials in new ways to use them for a different learning end. Therefore, it is expected that commercial organizations in the computer and instructional materials industries will provide a large portion of the computer hardware/software and instructional materials. Also schools that have been using individualized instruction (PLAN, IPI) and computer management of instruction (SWRL) can provide at least prototypes of the kinds of system the learning system requires.

However, it is important to remember that the learning system belongs to all the community. There will be computer people and instructional developers living in the community, and there is every reason to expect that they will contribute their skills to the development of learning system hardware/software in return for the system's helping them learn something else (see article, page 24).

Conclusion

Hopefully, by now, you have found at least one or two things wrong with the learning system--either in its characteristics or in the way it goes about achieving them, or in the role the computer plays in it--and something wrong with the notions about how to implement it. That is as it should be, because the learning system has a built-in evaluation and self-renewal process which continually tries to find those weaknesses you have probably just identified.

However, let me ask you to do the learning system a favor. Instead of just writing off the learning system, please try to help make it work. If you see someone that needs correcting, please let me know. If there is something that has been completely omitted, or some new technology that has been ignored, please let me know. If you just have criticism, fine. If you have alternative solutions, even better. Your comments and ideas will be incorporated. Please write to: Kenneth Silber, Instructional Communications Center, Governors State University, Park Forest South, Illinois 60466. But no reprints !!

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The final answer to the question "Can the learning system be implemented?" has very little to do with whether or not it is technically feasible. It has everything to do with whether people, presented with the idea, say "That's a good idea but it cannot be implemented because....." or say "That's something we need, and there will be some problems in getting it, but here is how we might overcome this problem....." The former attitude will assure us that we move nowhere fast, while the latter will assure that we do reach the goal.

I sincerely hope that we all can adopt the attitude that problems can be overcome because we want to overcome them, and that we will see a learning system operating and being tested and changing soon.